

rable as a species from *Catostomus ardens*. Meanwhile we abstain from giving a new name until more specimens can be obtained to settle the question.

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DESCRIPTION OF A NEW SPECIES OF "ROCK-FISH" (SEBASTICHTHYS CHRYSOMELAS), FROM THE COAST OF CALIFORNIA.

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Sebasticthys chrysomelas, sp. nov.

(*Sebasticthys nebulosus* Jordan & Gilbert, Proc. U. S. Nat. Mus. iii, 1880, 73, and elsewhere; not *Sebastes nebulosus* Ayres.)

In previous papers on the California rock-fish we have provisionally identified one of the common species as the *Sebastes nebulosus* of Ayres. Ayres himself, however, considered his own *nebulosus* as without question the *Sebastes fasciatus* of Girard, which is the *Sebasticthys fasciolaris* of Lockington. The two species agree closely in general characters, but differ in the development of the spines on the head, and especially in color, the "*fasciolaris*" having the yellow markings in the form of small spots or specklings, which are confluent along the sides, forming a sort of band, the other species having the yellow areas all large. The original description of *Sebastes nebulosus* Ayres (Proc. Cal. Acad. Nat. Sci. i, 5, 1854) applies in the main to both species; but the account of the coloration applies to *S. fasciolaris* Lockington, and not to our "*S. nebulosus*".

Ayres says:

"In color this fish is finely mottled with dusky yellow and dark brown; on the fins the latter hue predominates, and the lighter mottlings have rather a bluish aspect."

We propose, therefore, to consider *fasciolaris* a synonym of *nebulosus*, and to give to the species previously called *nebulosus* by us the new name *chrysomelas*, in allusion to its yellow and black coloration.

DESCRIPTION.—Body short and stout, not much compressed; highest at the origin of the first dorsal, thence tapering rapidly to the tail. Head short, bluntish, the profile very steep. Mouth rather small, nearly horizontal, entirely below the axis of the body. Lower jaw rather shorter than the upper in the closed mouth; no prominent symphyseal knob. Premaxillaries anteriorly on the level of the lower edge of the orbit; maxillary reaching the vertical from the posterior margin of the pupil.

Preorbital wide, its neck about half the diameter of the eye, its margin sinuate, usually with a spine.

Ridges on top of head very prominent, high and strong, ending in strong spines, which diverge backward. They are a little stronger than in *S. carnatus*, but lower than in *S. nebulosus*. The following pairs are present: Nasal, preocular, supraocular, tympanic, and occipital, five in all. Preopercular spines short and thick, the uppermost usually the

longest. Opercular spines usual. A small spine on the interopercle and one on the subopercle at the junction of the two bones. Suprascapular spines present. Gill-rakers short, rather thick, compressed and somewhat clavate, the longest about two-ninths the diameter of the orbit. Scales moderate, rough, the accessory ones few; about 56 transverse series. Lower jaw, maxillary, nasal region, and space in front of eye naked.

Dorsal spines high and strong, the third to sixth spines subequal and highest, rather higher than the highest soft rays. Dorsal fin deeply emarginate. Second anal spine much stronger than third, the two about equal in length. Pectorals with very broad base, reaching beyond the tips of the ventrals, which reach nearly to the vent. The lower pectoral rays thickened. Caudal slightly rounded.

D. XII, 1, 13; A. III, 6.

Coloration black and yellow; the latter shade is usually a clear, warm, brownish yellow, with some specks of deeper orange. It varies from a dusky orange to olivaceous yellow, the latter color more often seen on the belly. The dark shades are black or dark brown, with slight olive tinge. The colors are usually purest in specimens taken in deep water.

The dark color predominates on the back; the membrane between the third and fourth dorsal spines and an area at the base of these spines is always pale; a yellow blotch extends thence downward and backward, joining the light color of the belly. Another light area passes from near the angle of the opercle around the pectorals, uniting below them. Three other blotches occur along the back, one under the eighth dorsal spine, one under the last spine, and one under the last soft ray; from each of these irregular pale areas extend down the sides. The fins have the color of the region to which they belong. Head above with dusky cross-shades and faint bands radiating from the eye.

This species reaches a length of about 15 inches, and is found in large numbers on the coast of California, from the island of San Nicolas, which marks the southern limit of the abundance of the "rock-fish", to Cape Mendocino. It is common in the markets of San Francisco, although not one of the most abundant species. Its affinity with *S. carnatus* has been elsewhere noticed (Proc. U. S. Nat. Mus. iii, 1880, 74).

A table of measurements will be found on page 75 of vol. iii.

The species described by us as *Sebastichthys vexillaris* in vol. iii, p. 292, is represented in Puget Sound and the Gulf of Georgia by a variety or subspecies with lower dorsal spines and much darker and duller coloration, the dark shades being of a reddish brown. The latter form is apparently identical with *Sebastes caurinus* Richardson, Ichth. Voy. Sulphur, i, 1844, 77, pl. 41, fig. 1, described from Sitka.

The species may therefore take the name of *Sebastichthys caurinus*, and the California form that of subspecies *vexillaris*.

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